WHAT IS CLAIMED IS:

1. A plasma treatment apparatus comprising:

a plurality of plasma generation units comprising a first electrode and a plurality of second electrodes opposed to the first electrode; and

a gas supply unit for introducing a process gas into a space between the first electrode and the plurality of second electrodes,

wherein the plurality of plasma generation units are arranged linearly in one line or a plurality of lines.

2. A plasma treatment apparatus comprising:

a plurality of plasma generation units comprising a first electrode and a plurality of second electrodes opposed to the first electrode; and

a gas supply unit for introducing a process gas into a space between the first electrode and the plurality of second electrodes,

wherein the plurality of plasma generation units are arranged linearly in one line or a plurality of lines; and

wherein at least one of the plurality of second electrodes has a length of equal to or less than 1 mm on a side of an object to be treated.

3. A plasma treatment apparatus comprising:

a plurality of plasma generation units comprising a first electrode and a plurality of second electrodes opposed to the first electrode for forming a pattern on an object to be treated; and

a gas supply unit for introducing a process gas into a space between the first electrode and the plurality of second electrodes,

wherein the plurality of plasma generation units are arranged linearly in one line or a plurality of lines; and

wherein at least one of the plurality of second electrodes has a length of equal to or less than a square of a line width of the pattern on a side of the object to be treated.

4. A plasma treatment apparatus according to claim 3, wherein the pattern is a wiring pattern.

5. A plasma treatment apparatus according to claim 2, wherein a unit for positioning one of the plurality of plasma generation units to the object to be treated or the pattern on the object to be treated is provided.

6. A plasma treatment apparatus according to claim 3, wherein a unit for positioning one of the plurality of plasma generation units to the object to be treated or the pattern on the object to be treated is provided.

7. A plasma treatment apparatus according to claim 1, further comprising:

a unit for controlling a voltage applied to a predetermined electrode through a control circuit; and

a unit for controlling plasma generation on the object to be treated by synchronizing timing of scanning a stage or the plurality of plasma generation units and timing of applying a voltage to the predetermined electrode.

8. A plasma treatment apparatus according to claim 2, further comprising:

a unit for controlling a voltage applied to a predetermined electrode through a control circuit; and

a unit for controlling plasma generation on the object to be treated by synchronizing timing of scanning a stage or the plurality of plasma generation units and timing of applying a voltage to the predetermined electrode.

9. A plasma treatment apparatus according to claim 3, further comprising:

a unit for controlling a voltage applied to a predetermined electrode through a control circuit; and

a unit for controlling plasma generation on the object to be treated by synchronizing timing of scanning a stage or the plurality of plasma generation units and timing of applying a

voltage to the predetermined electrode.

10. A plasma treatment apparatus according to claim 1, wherein one of the plurality of second electrodes is processed by using a focused ion beam apparatus, photolithography, or a laser lithography apparatus.

11. A plasma treatment apparatus according to claim 2, wherein one of the plurality of second electrodes is processed by using a focused ion beam apparatus, photolithography, or a laser lithography apparatus.

12. A plasma treatment apparatus according to claim 3, wherein one of the plurality of second electrodes is processed by using a focused ion beam apparatus, photolithography, or a laser lithography apparatus.

13. A plasma treatment apparatus according to claim 1, wherein the first electrode and the plurality of second electrodes is covered with a dielectric.

14. A plasma treatment apparatus according to claim 2, wherein the first electrode and the plurality of second electrodes is covered with a dielectric.

15. A plasma treatment apparatus according to claim 3, wherein the first electrode and the plurality of second electrodes is covered with a dielectric.

16. A plasma treatment apparatus according to claim 1, wherein the film formation, the etching, or the surface modification is performed by applying a pulsed electric field into the space between the first electrode and the plurality of second electrodes under atmospheric pressure or under pressure approximate to atmospheric pressure.

17. A plasma treatment apparatus according to claim 2, wherein the film formation, the etching, or the surface modification is performed by applying a pulsed electric field into the

space between the first electrode and the plurality of second electrodes under atmospheric pressure or under pressure approximate to atmospheric pressure.

18. A plasma treatment apparatus according to claim 3, wherein the film formation, the etching, or the surface modification is performed by applying a pulsed electric field into the space between the first electrode and the plurality of second electrodes under atmospheric pressure or under pressure approximate to atmospheric pressure.